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NOTICE OF ALLOWANCE AND FEE(S) DUE

51472 7590 03/11/2008

GARLICK HARRISON & MARKISON
P.O. BOX 160727
AUSTIN, TX 78716-0727

EXAMINER

NGUYEN, TANH Q

ART UNIT

PAPER NUMBER

2182

DATE MAILED: 03/11/2008

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/684988	10/14/2003	Laurent R. Moll	BP3254	4742

TITLE OF INVENTION: PERIPHERAL BUS TRANSACTION ROUTING USING PRIMARY AND NODE ID ROUTING INFORMATION

APPLN. TYPE	SMALL ENTITY	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	NO	\$1440	\$300	\$0	\$1740	06/11/2008

THE APPLICATION IDENTIFIED ABOVE HAS BEEN EXAMINED AND IS ALLOWED FOR ISSUANCE AS A PATENT. **PROSECUTION ON THE MERITS IS CLOSED.** THIS NOTICE OF ALLOWANCE IS NOT A GRANT OF PATENT RIGHTS. THIS APPLICATION IS SUBJECT TO WITHDRAWAL FROM ISSUE AT THE INITIATIVE OF THE OFFICE OR UPON PETITION BY THE APPLICANT. SEE 37 CFR 1.313 AND MPEP 1308.

THE ISSUE FEE AND PUBLICATION FEE (IF REQUIRED) MUST BE PAID WITHIN **THREE MONTHS FROM THE MAILING DATE OF THIS NOTICE** OR THIS APPLICATION SHALL BE REGARDED AS ABANDONED. **THIS STATUTORY PERIOD CANNOT BE EXTENDED.** SEE 35 U.S.C. 151. THE ISSUE FEE DUE INDICATED ABOVE DOES NOT REFLECT A CREDIT FOR ANY PREVIOUSLY PAID ISSUE FEE IN THIS APPLICATION. IF AN ISSUE FEE HAS PREVIOUSLY BEEN PAID IN THIS APPLICATION (AS SHOWN ABOVE), THE RETURN OF PART B OF THIS FORM WILL BE CONSIDERED A REQUEST TO REAPPLY THE PREVIOUSLY PAID ISSUE FEE TOWARD THE ISSUE FEE NOW DUE.

HOW TO REPLY TO THIS NOTICE:

I. Review the SMALL ENTITY status shown above.

If the SMALL ENTITY is shown as YES, verify your current SMALL ENTITY status:

A. If the status is the same, pay the TOTAL FEE(S) DUE shown above.

B. If the status above is to be removed, check box 5b on Part B - Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and twice the amount of the ISSUE FEE shown above, or

If the SMALL ENTITY is shown as NO:

A. Pay TOTAL FEE(S) DUE shown above, or

B. If applicant claimed SMALL ENTITY status before, or is now claiming SMALL ENTITY status, check box 5a on Part B - Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and 1/2 the ISSUE FEE shown above.

II. PART B - FEE(S) TRANSMITTAL, or its equivalent, must be completed and returned to the United States Patent and Trademark Office (USPTO) with your ISSUE FEE and PUBLICATION FEE (if required). If you are charging the fee(s) to your deposit account, section "4b" of Part B - Fee(s) Transmittal should be completed and an extra copy of the form should be submitted. If an equivalent of Part B is filed, a request to reapply a previously paid issue fee must be clearly made, and delays in processing may occur due to the difficulty in recognizing the paper as an equivalent of Part B.

III. All communications regarding this application must give the application number. Please direct all communications prior to issuance to Mail Stop ISSUE FEE unless advised to the contrary.

IMPORTANT REMINDER: Utility patents issuing on applications filed on or after Dec. 12, 1980 may require payment of maintenance fees. It is patentee's responsibility to ensure timely payment of maintenance fees when due.

PART B - FEE(S) TRANSMITTAL

Complete and send this form, together with applicable fee(s), to: **Mail** **Mail Stop ISSUE FEE**
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INSTRUCTIONS: This form should be used for transmitting the ISSUE FEE and PUBLICATION FEE (if required). Blocks 1 through 5 should be completed where appropriate. All further correspondence including the Patent, advance orders and notification of maintenance fees will be mailed to the current correspondence address as indicated unless corrected below or directed otherwise in Block 1, by (a) specifying a new correspondence address; and/or (b) indicating a separate "FEE ADDRESS" for maintenance fee notifications.

CURRENT CORRESPONDENCE ADDRESS (Note: Use Block 1 for any change of address)

Note: A certificate of mailing can only be used for domestic mailings of the Fee(s) Transmittal. This certificate cannot be used for any other accompanying papers. Each additional paper, such as an assignment or formal drawing, must have its own certificate of mailing or transmission.

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P.O. BOX 160727
AUSTIN, TX 78716-0727

Certificate of Mailing or Transmission

I hereby certify that this Fee(s) Transmittal is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the Mail Stop ISSUE FEE address above, or being facsimile transmitted to the USPTO (571) 273-2885, on the date indicated below.

(Depositor's name)
(Signature)
(Date)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/684,988	10/14/2003	Laurent R. Moll	BP3254	4742

TITLE OF INVENTION: PERIPHERAL BUS TRANSACTION ROUTING USING PRIMARY AND NODE ID ROUTING INFORMATION

APPLN. TYPE	SMALL ENTITY	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	NO	\$1440	\$300	\$0	\$1740	06/11/2008

EXAMINER	ART UNIT	CLASS-SUBCLASS
NGUYEN, TANH Q	2182	709-239000

1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363).

- ☐ Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached.
☐ "Fee Address" indication (or "Fee Address" Indication form PTO/SB/47; Rev 03-02 or more recent) attached. Use of a **Customer Number is required.**

2. For printing on the patent front page, list

- (1) the names of up to 3 registered patent attorneys or agents OR, alternatively, 1 _____
(2) the name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed. 2 _____
3 _____

3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document has been filed for recordation as set forth in 37 CFR 3.11. Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE

(B) RESIDENCE: (CITY and STATE OR COUNTRY)

Please check the appropriate assignee category or categories (will not be printed on the patent): ☐ Individual ☐ Corporation or other private group entity ☐ Government

4a. The following fee(s) are submitted:

- ☐ Issue Fee
☐ Publication Fee (No small entity discount permitted)
☐ Advance Order - # of Copies _____

4b. Payment of Fee(s): (Please first reapply any previously paid issue fee shown above)

- ☐ A check is enclosed.
☐ Payment by credit card. Form PTO-2038 is attached.
☐ The Director is hereby authorized to charge the required fee(s), any deficiency, or credit any overpayment, to Deposit Account Number _____ (enclose an extra copy of this form).

5. **Change in Entity Status** (from status indicated above)

- ☐ a. Applicant claims SMALL ENTITY status. See 37 CFR 1.27. ☐ b. Applicant is no longer claiming SMALL ENTITY status. See 37 CFR 1.27(g)(2).

NOTE: The Issue Fee and Publication Fee (if required) will not be accepted from anyone other than the applicant; a registered attorney or agent; or the assignee or other party in interest as shown by the records of the United States Patent and Trademark Office.

Authorized Signature _____ Date _____
Typed or printed name _____ Registration No. _____

This collection of information is required by 37 CFR 1.311. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, Virginia 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450.

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DATE MAILED: 03/11/2008

Determination of Patent Term Adjustment under 35 U.S.C. 154 (b) (application filed on or after May 29, 2000)

The Patent Term Adjustment to date is 382 day(s). If the issue fee is paid on the date that is three months after the mailing date of this notice and the patent issues on the Tuesday before the date that is 28 weeks (six and a half months) after the mailing date of this notice, the Patent Term Adjustment will be 382 day(s).

If a Continued Prosecution Application (CPA) was filed in the above-identified application, the filing date that determines Patent Term Adjustment is the filing date of the most recent CPA.

Applicant will be able to obtain more detailed information by accessing the Patent Application Information Retrieval (PAIR) WEB site (<http://pair.uspto.gov>).

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Customer Service Center of the Office of Patent Publication at 1-(888)-786-0101 or (571)-272-4200.

Notice of Allowability**Application No.**

10/684,988

Examiner

TANH Q. NGUYEN

Applicant(s)

MOLL, LAURENT R.

Art Unit

2182

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to amendment filed 12/14/07.
2. ☒ The allowed claim(s) is/are 1-3,7,9,10,29,30 and 35.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some* c) ☐ None of the:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
(a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
(b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO/SB/08),
Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☐ Interview Summary (PTO-413),
Paper No./Mail Date _____
7. ☒ Examiner's Amendment/Comment
8. ☐ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____.

/Tanh Q. Nguyen/
Primary Examiner, Art Unit 2182
02/28/08

EXAMINER'S AMENDMENT

1. *An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.*

Authorization for this examiner's amendment was given in a telephone interview with the attorney for applicant, William W. Kidd (Reg. No. 31,772) on February 28, 2008 to clarify that only cache coherency peripheral bus transactions and input/output peripheral bus transactions are enabled for alternate routing, and further to correct minor informalities in order to put the application in condition for allowance.

The application has been amended as follows:

1. (currently amended) A processing device comprising:

one or more resources within a node;

a plurality of peripheral bus interfaces coupled to the one or more resources and coupled to a peripheral bus fabric to support resource sharing with a plurality of other processing devices of other nodes when the other processing devices are coupled to the peripheral bus fabric;

a node identification (ID) register including primary routing resources programmable with a plurality of addresses to determine a primary routing for a plurality of peripheral bus transactions among the plurality of peripheral bus interfaces based

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upon a destination address for each respective peripheral bus transaction, the plurality of peripheral bus transactions ~~being types of transactions~~ including transactions of different types, the different types of transactions including packet data transfer transactions, input/output transactions with input/output devices and cache coherency transactions to maintain cache coherency with other nodes; and

the node ID register also including a node routing table containing one or more override indications to determine an alternate override routing for a particular peripheral bus transaction over the primary routing, in which the primary routing for the particular peripheral bus transaction is overridden by the alternate override routing when the destination address and a type of transaction for the particular peripheral bus transaction is identified by one or more override indications in the node routing table for alternate routing,

wherein when the particular peripheral bus transaction is a cache coherency peripheral bus transaction, a first override routing indication is used to route the particular cache coherency peripheral bus transaction through a first alternate route instead of a primary route, and when the particular peripheral bus transaction is an input/output peripheral bus transaction, a second override routing indication is used to route the particular input/output peripheral bus transaction through a second alternate route instead of the primary route.

2. (currently amended) The processing device of claim 1 wherein the

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processing device determines a node ID of a destination device based upon a set of most significant bits of the destination address of ~~each~~ a respective peripheral bus transaction.

Canceled claims 4-6.

7. (currently amended) The processing device of claim 6 1, wherein the alternate override routing is selectively disabled with regard to the cache coherency peripheral bus transaction or the input/output peripheral bus transaction.

10. (currently amended) The processing device of claim 1 wherein the node routing table includes an entry for each of a plurality of processing devices, each entry comprising:

an override bit corresponding to an input/output peripheral bus transaction ~~transactions~~;

a primary/secondary port indication corresponding to the input/output peripheral bus transaction ~~transactions~~;

an override bit corresponding to a cache coherency peripheral bus transaction ~~transactions~~; and

a primary/secondary port indication corresponding to the cache coherency peripheral bus transaction ~~transactions~~.

29. (currently amended) A method for operating a processing device having one or more resources and a plurality of peripheral bus interfaces that are operable to couple the one or more resources of a node to one or more other processing devices of other nodes via a peripheral bus fabric, the method comprising:

receiving a peripheral bus transaction at the processing device, the peripheral bus transaction being ~~a type of transaction including~~ a packet data transfer transaction, an input/output transaction with input/output devices or a cache coherency transaction for maintaining cache coherency with other nodes, the packet data transfer transaction, the input/output transaction and the cache coherency transaction being different types of peripheral bus transaction;

determining a primary routing of the peripheral bus transaction among the plurality of peripheral bus interfaces based upon a destination address of the peripheral bus transaction programmed in a node identification (ID) register;

determining an alternate override routing of the peripheral bus transaction among the plurality of peripheral bus interfaces based upon entries in a node routing table, in which the primary routing for the peripheral bus transaction is used to route the peripheral bus transaction unless overridden by an alternate override routing when the

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destination address and a type of transaction for the peripheral bus transaction is identified by an override indication in the node routing table; and

routing the peripheral bus transaction among the plurality of peripheral bus interfaces according to the primary routing through a primary route, unless the node routing table indicates an entry to override the primary routing based on the type of transaction for the peripheral bus transaction, in which an alternate route is used to route the peripheral bus transaction; and

applying a first alternate override routing to the peripheral bus transaction when the peripheral bus transaction is a cache coherency peripheral bus transaction to route the cache coherency peripheral bus transaction by a first alternate route, and applying a second alternate override routing to the peripheral bus transaction when the peripheral bus transaction is an input/output peripheral bus transaction to route the input/output peripheral bus transaction by a second alternate route.

Canceled claims 32-34

35. (currently amended) The method of claim ~~34~~ 29, further comprising applying the primary routing to a packet data peripheral bus transaction and to route the packet data peripheral bus transaction by the primary route.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to TANH Q. NGUYEN whose telephone number is (571)272-4154. The examiner can normally be reached on M-F 9:30AM-7:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Alford Kindred can be reached on 571-272-4037. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Tanh Q. Nguyen/
Primary Examiner, Art Unit 2182

TQN
February 28, 2008